Serial Number: 10/815,464Dkt: 884.B60US1 (INTEL)

Filing Date: March 31, 2004 Title: PASSIVE WITHIN VIA Assignee: Intel Corporation

IN THE CLAIMS

Please amend the claims as follows:

- 1. 26. (Cancelled)
- 27. (Original) A method comprising:

forming a via in a substrate; and

forming at least a portion of an electrical component in the via in the substrate.

- 28. (Original) The method of claim 27 wherein forming at least a portion of an electrical component in the via includes forming a resistor.
- 29. (Original) The method of claim 27 wherein forming at least a portion of an electrical component in the via includes forming a capacitor.
- 30. (Original) The method of claim 27 wherein forming at least a portion of an electrical component in the via includes forming a core.
- 31. (Original) The method of claim 27 wherein forming at least a portion of an electrical component in the via includes forming at least a portion of a transformer.
- 32. (Previously Presented) A method comprising:

forming a via in a substrate; and

forming an electrical component in the via in the substrate.

RESPONSE TO RESTRICTION REQUIRMENT AND PRELIMINARY AMENDMENT

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- 33. (Previously Presented) The method of claim 32 wherein forming an electrical component in the via includes forming at least a portion of a resistor.
- 34. (Previously Presented) The method of claim 32 wherein forming an electrical component in the via includes forming at least a portion of a capacitor.
- 35. (Previously Presented) The method of claim 32 wherein forming an electrical component in the via includes forming at least a portion of a core.
- 36. (Previously Presented) The method of claim 32 wherein forming an electrical component in the via includes forming a resistor.
- 37. (Previously Presented) The method of claim 32 wherein forming an electrical component in the via includes forming a core.
- 38. (Previously Presented) The method of claim 32 wherein forming an electrical component in the via includes forming at least a portion of a memory device.
- 39. (Previously Presented) The method of claim 32 wherein forming an electrical component in the via includes forming a memory device.
- 40. (Previously Presented) The method of claim 32 wherein the electrical component in the via includes a passive electrical component.
- 41. (Previously Presented) The method of claim 32 wherein the electrical component in the via is a passive electrical component.

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42. (Previously Presented) The method of claim 32 wherein the electrical component is a capacitor further comprising:

an inner cylindrical portion; and an outer via portion substantially surrounding the inner cylindrical portion.

- 43. (Previously Presented) The method of claim 32 wherein the electrical component is a capacitor further comprising:
 - a first curved portion; and
- a second curved portion spaced from the first curved portion, wherein the distance between the first curved portion and the second curved portion vary.
- 44. (Previously Presented) The method of claim 32 wherein the electrical component is a capacitor further comprising:
 - a first curved portion; and
- a second curved portion spaced from the first curved portion, wherein the first curved portion and the second curved portion are portions of a via formed by insulating a first portion of a via from a second portion of a via..
- 45. (Previously Presented) The method of claim 32 wherein forming an electrical component in the via includes forming at least a portion of a transformer.
- 46. (Previously Presented) A method comprising:

forming via between a first layer of conductive material and a second layer of conductive material;

lining the via with a conductive material; connecting the lining to a first conductive layer; forming a conductor through the via; Serial Number: 10/815,464 Filing Date: March 31, 2004 Title: PASSIVE WITHIN VIA

> connecting the conductor to the first conductive layer; connecting the lining to the second conductive layer; and insulating the lining in the via from the conductor in the via.

- 47. (Previously Presented) The method of claim 46 wherein lining the opening with material includes etching the bottom of the opening.
- 48. (Previously Presented) The method of claim 46 wherein lining the opening with a material includes lining the opening with a magnetizable material.
- 49. (Previously Presented) The method of claim 15 wherein lining the opening includes lining the opening with conductive material.
- 50. (Previously Presented) A method comprising:

forming a via;

depositing a first layer of conductive material on inside surface of the via;

removing a portion of the deposited first layer of conductive material;

depositing a dielectric material onto the remaining portion of the conductive material and onto the inner surface of the via;

removing a second portion of the dielectric material; and depositing a second layer of conductive material.

- 51. (Previously Presented) The method of claim 50 wherein removing a portion of the deposited first layer includes etching.
- 52. (Previously Presented) The method of claim 50 wherein removing a portion of the deposited insulative material includes etching.

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53. (Previously Presented) The method of claim 50 wherein the amount of dielectric material provides an insulator between the first conductive layer and the second conductive layer.

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54. (Previously Presented) A method comprising:

forming a via in a substrate;

depositing a first pad having a portion associated with the via;

depositing a second pad having a portion associated with the via, the first pad electrically isolated from the second pad;

filling the via with a resistive material.

The method of claim 54 wherein depositing the first pad and 55. (Previously Presented) depositing the second includes placement proximate a single surface of the substrate.

The method of claim 54 wherein depositing the first pad includes 56. (Previously Presented) placement proximate a first surface of the substrate and depositing the second includes placement proximate a second surface of the substrate.

- 57. (Previously Presented) The method of claim 54 wherein the filling the via with a resistive material includes selecting the resistivity of the material to select the resistance across the via.
- The method of claim 27 wherein forming at least a portion of an 58. (Previously Presented) electrical component in the via includes:

lining the via with a conductive material; connecting the lining to a first conductive layer; forming a conductor through the via; connecting the conductor to the first conductive layer; connecting the lining to a second conductive layer; and insulating the lining in the via from the conductor in the via.

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59. (Previously Presented) The method of claim 58 wherein lining the via with material includes etching the bottom of the via.

- 60. (Previously Presented) The method of claim 58 wherein lining the via with a material includes lining the opening with a magnetizable material.
- 61. (Previously Presented) The method of claim 27 wherein forming at least a portion of an electrical component in the via includes:

depositing a first layer of conductive material on inside surface of the via; removing a portion of the deposited first layer of conductive material;

depositing a dielectric material onto the remaining portion of the conductive material and onto the inner surface of the via;

removing a second portion of the dielectric material; and depositing a second layer of conductive material.

- 62. (Previously Presented) The method of claim 61 wherein removing a portion of the deposited first layer includes etching.
- 63. (Previously Presented) The method of claim 61 wherein removing a portion of the deposited insulative material includes etching.
- 64. (Previously Presented) The method of claim 61 wherein the amount of dielectric material provides an insulator between the first conductive layer and the second conductive layer.
- 65. (Previously Presented) The method of claim 27 wherein forming at least a portion of an electrical component in the via includes:

depositing a first pad having a portion associated with the via;

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depositing a second pad having a portion associated with the via, the first pad electrically isolated from the second pad; and

filling the via with a resistive material.

- 66. (Previously Presented) The method of claim 65 wherein depositing the first pad and depositing the second includes placement proximate a single surface of the substrate.
- 67. (Previously Presented) The method of claim 65 wherein depositing the first pad includes placement proximate a first surface of the substrate and depositing the second includes placement proximate a second surface of the substrate.
- 68. (Previously Presented) The method of claim 65 wherein the filling the via with a resistive material includes selecting the resistivity of the material to select the resistance across the via.